Spent Nuclear Fuel

Expectation:

Protect the Columbia River by safely moving more than 2,100 metric tons of deteriorating spent nuclear fuel from aging, wet storage near the river to safe, dry, interim storage on Hanford's central plateau.

Fuel Movement Preparations:

- **Completed cold testing in the K West Basin with pieces of pipe designed to resemble irradiated, or spent, fuel.**
- **Conducted a readiness assessment to begin hot testing of the K West Basin fuel retrieval and water treatment systems. Ready to begin hot testing by "decapping" a select number of the actual canisters containing spent fuel. The tests are part of a phased approach to demonstrate equipment performance and worker proficiency prior to start of fuel movement in November.**
- **Completed integrated testing of the K West Basin cask transportation system with other key components of the fuel-removal process.**
- **Installed impact absorbers in the Canister Storage Building tubes where the dried spent fuel will be kept until later shipment offsite.**

Impact absorbers like this one being tested were installed in the bottom of the 40-foot tubes at the Canister Storage Building, ready to cushion the multi-canister overpacks (MCOs) containing baskets of dried spent fuel and scrap from the K Basins. A similar impact absorber will be placed on top of each MCO, once it's in the storage tube, to cushion it from the MCO to be stored above it.

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Fuel Movement Preparations: (continued)

- Began our operational readiness review of all K West Basin, Canister Storage Building and Project transportation systems.

- Successfully executed four drying cycles at the Cold Vacuum Drying Facility, using simulated fuel.

- A local vendor fabricated equipment that will be used to dry 15.7 metric tons of spent fuel from the Shippingport (Pennsylvania) Atomic Power Station reactor that has been stored in a pool at Hanford's T Plant since the 1970s. Another vendor will fabricate 18 special canisters to hold this fuel. These are part of efforts, in concert with Fluor Hanford's Waste Management Project, to prepare T Plant for compliant storage of sludge from the K Basins.

A worker at HiLine Engineering in Richland puts the finishing touches on equipment that will be used to dry some non-K Basins spent fuel now stored in a pool at T Plant. This non-K Basins spent fuel will be moved to make way for compliant storage of some of the sludge from the K Basins.

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Safety and Compliance Update:

- **Became Hanford's first cleanup project certified by the National Spent Nuclear Fuel Program to satisfy requirements of the Office of Civilian Radioactive Waste Management. This means the Project meets quality assurance standards for ultimate acceptance of the dried fuel at the proposed federal high-level waste repository in Nevada.**

What's Next:

- **Complete operational readiness reviews leading to the start of fuel movement out of the K West Basin in November.**

- **Plan modifications in the K East Basin in preparation for fuel movement activities to start in fiscal 2002.**

A National Spent Nuclear Fuel Program auditor observes Fluor Hanford machinists ready to stencil newly fabricated spent fuel baskets. DOE rated the Project's quality assurance "effective" in all 20 criteria to handle, dry, monitor and store spent fuel that will one day be sent to a federal high-level waste repository.